

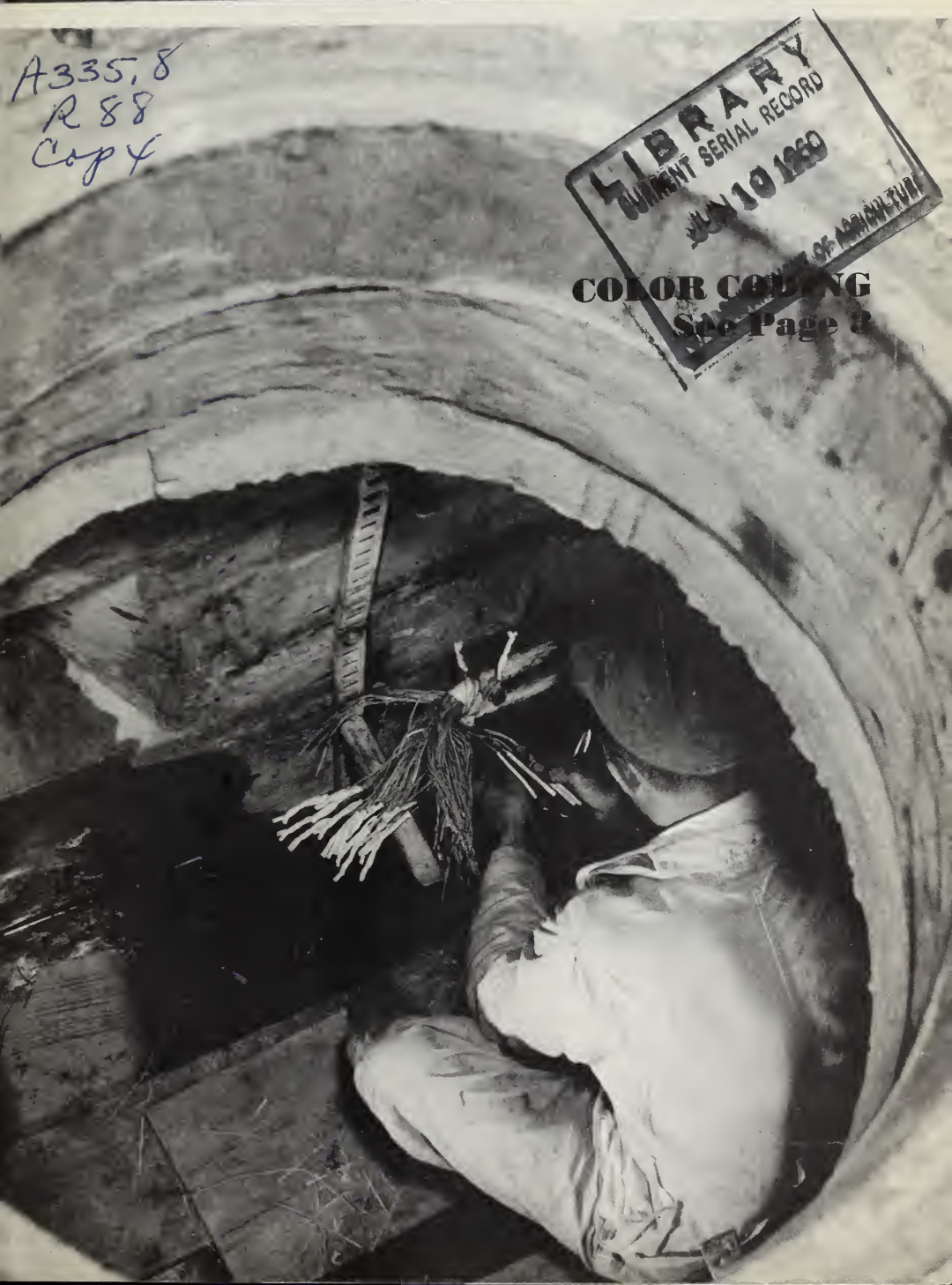
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Rural Lines

RURAL ELECTRIFICATION ADMINISTRATION • U. S. DEPARTMENT OF AGRICULTURE

JUNE
1960



COLOR COPIING
See Page 2

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A Message from the

ADMINISTRATOR

My first thought when I heard about the ice storm damage in the South this spring was that it was going to be a dangerous job to restore service. It was dangerous, but there were no deaths and few accidents. The co-ops proved that good management, training, and supervision can prevent accidents, even under the most hazardous conditions.

But while we were worrying about the disaster area, the accident record in the rest of the Nation steadily worsened. During the first 3 months of 1960, eight borrower employees were killed in on-the-job accidents. This is the same high frequency rate that borrowers experienced in 1958, the second worst accident year in REA's history.

The steps necessary to establish an effective safety program should be familiar by now to every borrower. We have sent you material showing how you can set up a program and explaining how REA and the National Safety Council can assist. If there is any doubt in anyone's mind about how a safety program should be organized, REA field representatives are ready to help.

National Farm Safety Week has been proclaimed by the President for July 24-30. Borrowers everywhere can observe the week by reviewing their safety policies, rules and equipment, and by re-emphasizing to employees that the only way to do a job is to do it the safe way.

It also will be a good time to campaign for home and farm inspections for electrical hazards, such as overloaded circuits, worn wiring, and improperly grounded power machinery.

The year has started badly. Let's see to it that there are no more accidents, to employees or consumers, during the remainder of 1960.

Rural Lines

David G. Hamel
Administrator.

Cover page: This cable splicer can now have confidence in the color of conductors—story on page 3.

John H. Howard, Editor. Contributors to this issue: Robert M. Cox, Les Gaver, M. A. Jenkins, Louisan Mamer, William E. Wirt.

Issued monthly by the Rural Electrification Administration, U. S. Department of Agriculture, Washington 25, D. C. Subscribe to this publication from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Price \$1.50 a year; foreign \$2.00 a year; single copies, 15 cents. Printing of this publication has been approved by the director of the Bureau of the Budget, January 3, 1957 • Vol. 7, No. 1.

Picking the right conductor pair can be as frustrating to a workman on plastic insulated telephone cable as matching a spool of thread is for his wife. To simplify this procedure, REA is setting up color specifications designed to assure a uniform product from all manufacturers.

Adoption of a color code, back in May 1958, was in itself a big step forward in work on outside plant in a telephone system. However, borrowers and REA personnel and contractors soon found it was not the whole answer. Some variations in some colors of plastic insulation occurred among the different cable manufacturers. Identifying colors for splicing and terminating sometimes became a serious problem when all the cable used on a system was not purchased from the same supplier. Brown insulation from one manufacturer might look like orange from another.

Now color standardization will be another great stride in simplifying the task of matching pairs of telephone wires. It has not come easily. The search for a means of attaining color uniformity among the various cable manufacturers has gone on for many months. During this time, REA engineers held numerous discussions with officials in the industry and among the manufacturers. These led to the conclusion that a system for specifying colors was both practicable and desirable.

The prolonged investigation has led to color specifications which REA has written in terms of such a color system. It is acceptable to the industry and fully



**They've NOW
LICKED
the COLOR
CODE
PROBLEM**

adaptable to the manufacturing process.

A number of problems had to be faced in eliminating handicaps to color coding. Electrical properties of plastic insulated conductors varies with differences in type and dispersion of pigments. The required electrical uniformity is obtainable by the use of proper pigments and the proper dispersal in the plastic insulation material. Uniform electrical properties are necessary to enable telephone companies to realize the maximum capabilities of electronic equipment, such as carrier and repeater facilities.

Then, too, the pigments also affect the resistance to fading and aging characteristics of the plastic material. Polyethylene insulated conductors are not expected to be unduly exposed to sunlight, but should normally be protected by the cable sheath. The outdoor polyvinyl used in chlorides in multipair distribution wire, however, presents the greatest problem, due to direct exposure to sunlight. Some compounds and pigments have poor aging characteristics and fade too easily. The polyvinyl chloride compounds selected were specifically designed for outdoor use. The colors were chosen among those pigments more resistant to fading in direct sunlight so that pair identification will be possible over the life of the wire.

Uniformity of colors from one manufacturer to another was needed to make the color code effective. The colors had to be readily distinguishable. The manufacturer had to be able to administer the color code and the system of specifying color toler-

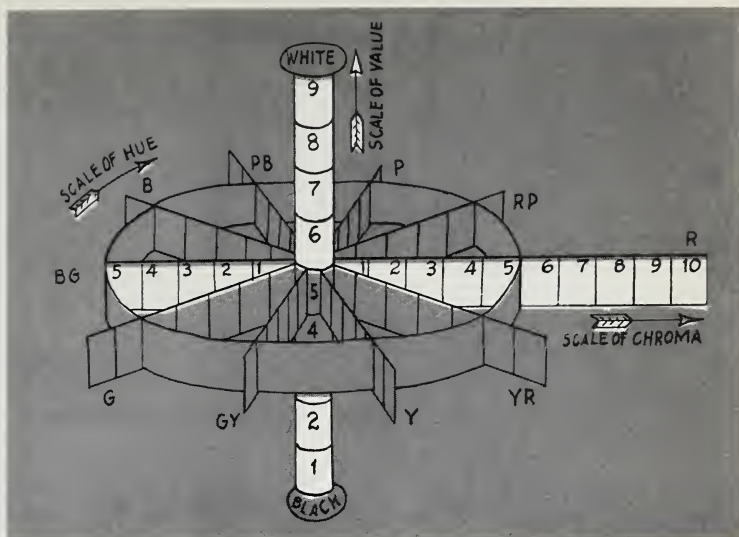
ances. The colors and their tolerances had to be set forth so as to be easily understood. This called for the selection of a suitable color system.

A number of color systems and collections of color samples were available to choose from. These could be separated into three basic categories. One is a colorant mixture, produced by systematic mixtures of colorants such as paints, inks, dyes, and the like. Another is the color mixture system, produced by additive mixtures of colors. Still another type is the color appearance system, produced according to the visual relationship among colors.

REA wanted a system that was already nationally recognized and easily comprehended by the average color matcher and inspector. The materials for it should be readily available at a reasonable cost. Color should be specified by visual attributes as well as physical properties because users will be concerned with appearance. Its tolerances should be easily specifiable. REA evaluated several systems, finally narrowing the choice down to an existing commercial system, called the Munsell System of Color Notation. Discussions with the National Bureau of Standards, with a number of cable manufacturers, and with manufacturers of plastics indicated that this system would meet the exacting requirements.

The system of color notation in REA's proposed specifications is a scientific concept for describing and analyzing color in terms of three visual attributes. It arranges these attributes, on a three dimensional basis, into or-

HUE, VALUE and CHROMA in their relation to one another. The circular band represents the HUES in their proper sequences. The upright center axis is the scale of VALUE. The paths pointing outward from the center show the steps of CHROMA, increasing in strength as indicated by the numerals.



derly scales of equal visual steps. REA's standards will specify a central area (centroid) for each color and the allowable tolerances for each dimension. The system selected has been used in scientific and industrial color work for many years and appears in book form for this purpose. Thousands of copies of the book are currently in use and may be followed as appropriate in complying with the REA standard. However, many new colors had to be made up and do not appear in such a book. Therefore, the Munsell Color Company has prepared a series of charts specifically for the telephone industry which display the appropriate colors in high gloss finish and which contain complete information on illuminating and viewing conditions, scientific daylight sources and color vision testing. These will be available from the Munsell company in book form entitled: Color Standards for Plastic Insulated Communication Cables and Wires.

A preliminary announcement will allow manufacturers an op-

portunity to use up present stocks of material. Later they should be able to sharply curtail their stockpile needs. When purchasing plastics, they can begin asking for materials meeting REA's color specifications. Since other users of the same type of cable are interested in such standard colors, the widespread acceptance of this color system by the industry would be a real boon to cable manufacturers. A substantial start has been made in that direction. Work is continuing with the vinyl plastics to try to obtain better colors with the best possible aging characteristics.

The new color standards will enable telephone systems to get full advantage from color coding. Personnel then need learn only one color code and can work as easily with one supplier's cable as another's. Borrowers will need to rely less and less on outside experts, letting their own employees do the splicing, terminating and the like. Being able to do the work themselves will further enhance the savings made possible by use of fully color coded cable in telephone plant.



Company with a personality

You'll get a big Dixie welcome if you move to Cornelia, Ga. A few days after you move to town someone from the Chamber of Commerce will call on you, make you feel at home, and give you a few gift items from local merchants. It's that kind of town, because of people in the Chamber of Commerce like H. M. Stewart. He is president of the Standard Telephone Company, and the telephone company's gift to newcomers is a ballpoint pen which stands in a miniature telephone.

This is only one of the many friendly gestures employed by the Standard Company, which operates 10 exchanges serving more than 5,000 subscribers in six counties in hilly northeast Georgia.

"Public relations is simply company personality," says Stewart, in an effort to explain the reason for his public relations program. To Stewart, an extroverted man full of good will toward everyone, there is no reason why a business

institution shouldn't cultivate good relations toward customers simply for the sake of doing so. It isn't a question, necessarily, of paying off.

It *does* pay off, though. Three years ago the Standard Telephone Company had 4,013 stations on its system. Now there are 5,749. Subscribers pay average toll bills of \$1.50 per month. Extensions help. Standard had 493 of them 3 years ago. Now they have 765, a thumping 13 percent.

The keystone of Stewart's public relations program is good employee relations. He selects prospective employees with care, and trains them carefully. Pay is in line with prevailing salaries in the area. Standard employees get paid vacations and insurance—both life and hospitalization—paid for by the company.

"If an employee is well-trained and satisfied," says Stewart, "all your efforts toward employee and public relations will be more fruitful."

One fruitful effort has been



Standard's newsletter is about to go to press.

the Standard Company's monthly newsletter, *The Standard Bearer*, mailed to the company's employees. Stewart feels, first, that the newsletter helps knit the scattered organization together. Second, it promotes a friendly rivalry among employees in different exchanges. Third, the newsletter helps acquaint employees with the telephone business. Each issue includes a short item about how the industry works.



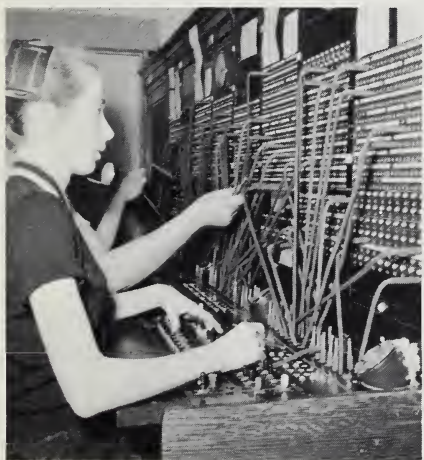
W. B. Cox, vice president, checks over records of exchanges, looking for newsletter copy.

The competition created by the newsletter has been helpful in collections. At one time, collections were running under 90 percent. When collections get behind several things happen. It takes more time and money to collect slow accounts than it does to keep collections up to date. Standard Telephone people have noted that people with big past due bills tend to complain more. And if their bills are large they are apt to have their telephones discontinued entirely. And, of course, some money is never collected at all.

Each month the *Standard Bearer* lists exchanges by rank, according to percentage of collections made. A short article gives pat-on-the back recognition to exchange operators who have done a good job.

Collections now exceed 99 percent.

The newsletter also lists each month the number of stations on each exchange, the number gained during the month, and the num-



Standard's last old-fashioned switchboard.

ber of held orders. Pat-on-the-back comment accompanies this list also.

Standard employees boost business growth through good service and courtesy. A serviceman calls on each subscriber before cutover, to check the subscriber's directory listing. While there he checks the subscriber's interest in extensions, colored instruments and the like. Staff members know that subscribers with brand new dial telephones often do not know how to dial correctly, and can be sensitive about this inability. Servicemen answer such trouble calls Johnny-on-the-spot; they go through the motions of checking the instrument while diplomatically giving the subscriber a visual demonstration in the right way to dial.

Staff members handle party line complaints by mailing all parties a courteously worded form letter.

Stewart is also a director of the Georgia Mountain Association and of the Upper Chattahoochee

Development Association. The former organization is devoted to attracting tourists to the region; the latter works hard at promoting new industry for the area.

Being a good neighbor has helped Stewart spread the word about telephony. He is frequently invited to give talks before civic club groups about the development of the telephone. Now the company has plans to offer schools a presentation on proper use of the telephone.

Standard's 16 mm movie film shot in Habersham County is in frequent demand by schools and service clubs.

When the 1,000th subscriber was added to the Clarkesville exchange, and when the 5,000 station was installed on the Dahlonega exchange, local newspapers went all out to publicize the event with articles and picture stories.

When you work hard all the time at promoting good will, Stewart finds, it isn't long until others are working hard to give you publicity.

FISH STORY—WELL DONE

These fishermen made their catch atop a 45-foot, 3-phase line pole. Before Foreman Eugene Dahlen (left) and Lineman Vernon Fjelstad (right) made their catch, more than 100 members of Freeborn-Mower Cooperative Power Association, Albert Lea, Minn., were without electricity. How the fish got to the top of the pole is a mystery, but it is assured that a hawk carried it there and let it come into contact with a phase wire. A 35-mile section of line was knocked out

of service by the encounter. Only about 10 inches of the fish was left—it was well-cooked.



New and Revised REA Telephone Bulletins

Bulletin 320-2—Section 12 extensions of payments of principal and interest.

Bulletin 320-13—Loans for switched facilities.

Bulletin 344-2—List of materials acceptable for use on telephone systems of REA borrowers.

Bulletin 345-1—Specifications for poles, pole stubs, and for preservative treatment of these materials to be purchased by REA borrowers.

Bulletin 345-3—Acceptance of standards, standard specifications, drawings, materials and equipment for the electric and telephone programs.

Bulletin 345-9—Guidelines for independent inspection of wood poles, stubs and anchor logs, wood crossarms, construction lumber and pole keys and the preservatives and preservative treatment

thereof, to be purchased by REA borrowers.

Bulletin 382-2—Construction of telephone system improvements and extensions by work order on line extension contract.

Bulletin 383-3—Check list for inspection of aerial cable plant.

Bulletin 400-2—Selection of an attorney by REA borrowers.

Bulletin 408-1—Telephone borrowers' financial and statistical reports.

Bulletin 409-1—Selection of a manager by telephone borrowers.

Bulletin 320-14—Loan applications from telephone borrowers to finance system improvements and extensions. (New).

Bulletin 447-5—Suggestions for your Safety Program. (New).

New and Revised REA Electric Bulletins

Bulletin 20-5—Section 12 Extensions of payments of principal and interest.

Bulletin 44-2—Specification for wood poles, stubs and anchor logs and for preservative treatment of these materials to be purchased by REA borrowers.

Bulletin 44-4—Guidelines for independent inspection of wood poles, stubs and anchor logs, wood crossarm, construction lumber and pole keys and the preservative treatments thereof to be purchased by REA borrowers.

Bulletin 44-7—Acceptance of standards, standard specification, drawings, mate-

rial and equipment for the electric and telephone programs.

Bulletin 100-1—Selection of an attorney by an REA borrower.

Bulletin 100-2—Minutes of the Meetings of Boards of Directors, members or stockholders.

Bulletin 182-1—Evaluation and enforcement of internal control of borrower's enterprises.

Bulletin 140-8—New Bulletin. Outdoor lighting service for farms and other rural establishments.

Two Plans For Poles



A new REA pole specification, designed to improve the quality and service life of poles to be incorporated in REA borrowers' systems, goes into effect July 1. It offers two options for the procurement of wood poles.

Both electric and telephone borrowers will have the alternative of buying an *Independently Inspected* pole or an *Insured Warranted* pole. Poles purchased under either plan carry the standard 1-year guarantee against defects and warranty that they conform fully to all requirements of the specification.

Under the *Independently Inspected* plan inspection of the pole by an independent inspection agency or laboratory is required. In the event a pole procured under this plan is found defective under the specification within 1 year after shipment, it is to be replaced by the supplier.

Under the *Insured Warranty* plan, in addition to the standard 1-year warranty, the pole is warranted against rot, decay or insect damage within a period of 11

years from the date of treatment which is branded—month and year—on the face of the pole. A system purchasing an *Insured Warranted* pole which sustains such damage can receive reimbursement not only for the cost of the damaged pole but also for the cost of removing the old pole, installing the new pole, and transferring equipment, and for associated transportation and overhead cost. *Insured Warranted* poles will be identified by having the letters “I-W” included in the brand.

The new procurement plans were developed by REA after careful study and many discussions with pole producers and representatives of the insurance industry.

Essential elements of both plans are:

1. Quality control procedures operating effectively in every treating plant. (Some producers already have theirs, others do not.)
2. Assay method of determining the retention in treated poles.

The assay method consists of analyzing sample borings taken from the treated poles. It is a sure way to determine actual retention of preservative. The old method was to take the difference between gauge readings on the tank of preservative before and after treatment, and to assume that the difference went into the poles on a uniform basis. This was an inexact method.

Pole producers are submitting applications to have their prod-

ucts listed as *Independently Inspected*, *Insured Warranted*, or both. REA will issue interim lists of approved products as fast as applications can be acted upon.

The form of insured pole warranty used in the *Insured Warranty* plan and the insurer are to be approved by REA. The warranty assures a system that it can collect, even if the treating company has since gone out of business. Furthermore, the insurance company provides engineering supervision of the quality-control procedure in each treating plant.

In a way, the *Insured Warranty* plan is a tribute to progress in pole treating. Experience with poles has been good, by and large. It has been noted, however, that poles which fail usually show signs of failure in the early stages of service life. Frequently, the defects will show up in poles which were treated together in the same charge, and may not have received proper treatment with a good preservative. It can be rough—both physically and financially—on the system unlucky enough to be caught with a batch of defective poles on its lines.

Some treating plants may have to adjust their practices to meet the new REA specification. Any change in cost attributable to the assay and quality control should not be confused with the relative costs of independent inspection and warranty insurance under the two procurement plans. These latter costs are comparable, and any difference should be modest.

Electricity delivered to a remote rural region made El Rancho del Campo possible.

California Co-op

Serves

BOYS LEARNING TO BE MEN

A half-mile north of the Mexican border in San Diego County, California, is El Rancho del Campo, where California boys who have run afoul of the juvenile courts are learning to be men with useful trades.

The ranch is located in a fairly level, wooded valley surrounded by brush-covered hills, about 60 miles inland from San Diego. This remote region is ideal for a boy's training school. The area is served by the Mountain Empire Electric Cooperative, Inc., of Campo.

"Boys get into trouble in the

The boys learn about electricity in the classroom.





Useful trades are taught to the boys, thanks to electric power.

cities because of idleness. The State sends them down here, and thanks to the electric power system run by the ranchers around Campo, they can go back with a trade which keeps them busy and helps them contribute to the State's economy."

The Mountain Empire cooperative, in turn, gains from the Rancho's power consumption on its 230-mile, 1,100-member lines which are helping to develop that area. The Rancho's monthly electric bill of \$250 is among the largest on the co-op's lines.

The Rancho uses electricity in its kitchen, automatic laundry, and dairy barn. All kinds of power tools in the woodworking



and auto shops require electric current. The school is equipped with ample yard lights and an intercom system, and has well-lighted reading rooms, as well as such appliances as television sets, phonographs, radios, and projectors.

The Rancho's 17 buildings used to be the Army's Camp Lockett when cavalry patrolled the border. Later, the Army began converting the post into a convalescent hospital, but abandoned the project; and the camp was sold to the county for its present purpose. The asbestos-shingled buildings were equipped with a sprinkler system which met the State Fire Marshal's safety standards, and the Rancho's 200 acres provided the elbow room needed for a boys camp.

The school has capacity for 100 boys, and 97 are presently enrolled. The school accepts boys from 14 to 18 years of age, who are physically fit to work on the ranch and take part in the rigorous physical education program.

The Rancho has a staff of 22 probationary personnel, 8 teachers and 4 maintenance people. The camp is under the supervision of Chief Probation Officer Charles T. G. Rogers. The school's curriculum is under the jurisdiction of the San Diego County school system. Superintendent of the camp is Robert P. Logan, and the school principal is James Pfeiffer.

Subjects include mathematics, woodshop, science, mechanical arts, English, auto mechanics, arts and crafts, history, civics,

biology, and culinary arts. School is in session during the regular school year, plus one semester of summer school.

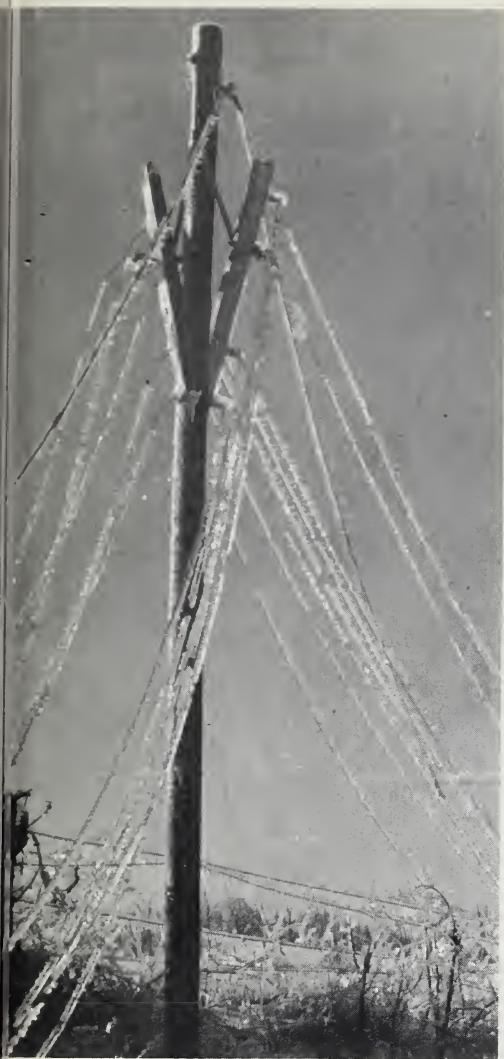
The academic program is geared to the ability of each boy in class. Individual help is necessary, since there is a wide variation in the abilities of the boys.

Boys who are retarded in their school work may work at their own speed.

Each boy spends half of each weekday at work, and the other half in school. Work projects consist of ranch work, such as caring for livestock and poultry, working in the orchard or truck garden. Some boys are assigned to help in the laundry or kitchen. Others are assigned nearby to do maintenance and salvage work under the direction of the San Diego County Public Works Department. The boys are paid 25 cents a day for the half days' work they do. It is held in trust for them and they may spend it for canteen and other expenses.

The school maintains an athletic program, and also has a complete indoor recreation area. A gymnasium is equipped for wrestling and tumbling. There are also facilities for shuffle board, weight lifting, ping pong, bowling, leathercraft, as well as a photographic dark room, radio hobby room, and a record player.

"The availability of ample electric current from the Mountain Empire Electric Cooperative," says a school official, "makes possible many things which a boy needs when he is learning to be a man."



NO LOST TIME
WHEN THE
Chips
Were
Down

The ice load made a shambles of telephone conductor.

Try to imagine a set of circumstances most likely to produce a serious lost time injury. You'll come up with something very like the situation in the southern Piedmont during the ice and snow storms of last February and March, when it is usually spring-time down in Dixie.

The rugged terrain was covered with glare ice. Rural telephone and electric systems were a tangle of wire and snapped poles. Communications in many places depended on the chance of local ham radio operators getting a message through. Rural utility offices were made chaotic by urgent trouble calls from everywhere—dairies, poultrymen, houses with sick people. It was the same story all over northern Alabama and Georgia, and much of adjoining Tennessee and the Carolinas.

The case of the Marshall-DeKalb Electric Cooperative at Boaz, Ala., is typical of the experience of many REA borrowers in the region. The entire 850-mile system was out; a total of 1,000 poles had to be replaced. Manager Thomas Wheeler, Jr., doesn't have a large crew and there were limited reserves of material and cash. Overnight he was running a big enterprise, with crews from as far south as Andalusia. At one point he had 265 men on the job, working dawn-to-dusk around the clock. The co-op headquarters auditorium was made into a dormitory and a chow line was set up. Men from the Gulf Coast who had scarcely seen snow in their lives were climbing over the ice-covered rocks in strange territory.



Broken poles could be seen everywhere in northern Alabama.

All along the Marshall-DeKalb system, Old Man Accident had his chips down, and with what looked like heavy odds in his favor. But the co-op won.

There were no lost time injuries during the 2-week period in which oversize strange crews worked overtime in rough weather to restore service, nor in the following month of follow-up work. There wasn't even a serious first aid case.

It wasn't luck that caused Old Man Accident to lose against the Boaz co-op. Observers reported that all crews were wearing hard hats and rubber gloves through the thick of the trouble, and observing safety rules in spite of their need for haste.

Reports from other southern borrowers who suffered from the storms were very much the same. No fatalities to borrowers' employees, and very few injuries of any kind. The southern systems proved several old safety maxims, such as: *Every accident can be prevented*; and *Safety training pays off*; and *Only with responsible management can accidents be prevented*.

Emergency loans. Among the hardest hit borrowers were the Peoples Telephone Company, Collinsville, Ala.; Cherkoe Electric Cooperative, Centre, Ala.; Sand

Mountain Electric Cooperative, Fort Payne, Ala.; Arab Electric Cooperative, Arab, Ala.; Carroll Electric Membership Corporation, Carrollton, Ga.; Douglas County Electric Membership Corporation, Douglasville, Ga.; Tallapoosa River Electric Cooperative, Lafayette, Ala.; and North Alabama Electric Cooperative, Stephenson, Ala.

REA emergency loans were forthcoming in 5 days after application to help pay the cost of the massive trouble-shooting job to restore service.

Along with other utility crews, both rural borrowers and urban utilities, the Army and National Guard helped out. The latter hauled poles, crossarms and conductors. They set up portable generators and hauled water to families and poultry farms. Operation Cluck Cluck was what the soldiers cheerfully called the latter.

Darker Side. It wasn't all bright, from the standpoint of safety. While there were no fatalities to borrowers' employees, a lineman, from a telephone company with a joint-use agreement with an electric borrower, was electrocuted on the line.

A farmer and his wife on the lines of one electric borrower were also electrocuted, although this occurred after the ice and snow were gone. The fatalities had no probable relation to the storm. A hot conductor broke over the yard of the farmhouse, set fire to the grass. In putting out the fire, they contacted the wire somehow. Since there were no witnesses, the exact sequence of events leading to the tragedy can be only conjecture.

SAFETY ROUNDUP

Sudden Death Is On The Rise

The price of life on any hot line is eternal vigilance.

This was apparent to REA safety engineers on reading the eight reports of fatal injuries which occurred to electric borrowers' employees before the first quarter of 1960 ended.

The Eight Deaths. The eight fatalities to electric borrowers were not all caused by hot lines. Two linemen in the Rocky Mountains were killed in a snowslide while answering a trouble call at night. Blinding snow was a contributing factor in another death on an eastern co-op's lines. It was 2:35 a.m. and this lineman was repairing storm damage—without rubber gloves and without grounds, unfortunately.

The reports of the other five fatalities indicate that many borrowers need more vigilant safety programs. In each of them men without rubber gloves and without proper grounding touched a



Removing fallen trees was a big job for Tennessee's Bledsoe Telephone Co-op.

hot conductor. One of them, ironically, had attended a safety meeting a few days before.

Hand Tool Training. Records show that many employees need simple hand tool training, say the safety engineers.

There's the case of the young

Young Christopher Crall and his mother. Left, Pliny Samuels, Chariton Valley line superintendent.



fellow on his first day at work for a telephone company in an Eastern state. This telephone borrower had bought hard hats, goggles, and first-aid kits for its employees, and about a month before the manager had cautioned all employees about safety practices. However, on this young man's first time up a pole, apparently no one told him about skinning wire away from you, even though the line foreman was on the ground nearby. The young lineman was in an awkward position underneath a down guy, trying to connect parallel line wire into a terminal. His side cutting pliers slipped while skinning wire toward him, hit his left eye. He'll get along without

that eye, somehow, the rest of his life.

Mouth-to-Mouth Saves A Life.

Some line bosses go out of their way to learn safety techniques. Line Superintendent Pliny Samuels of Chariton Valley Electric Cooperative at Chariton, Iowa, does. He is key man on Albia's Rescue Squad and an experienced First Aid instructor. When Christopher Crall, son of the James Cralls and nephew of board member Leo Barry, was born last fall he didn't start breathing. The rescue squad's mechanical resuscitator failed to work, also. So Pliny Samuels applied his newly learned mouth-to-mouth artificial respiration. It worked, and the healthy young Christopher can hope to be a Chariton Valley board member himself one day.

Hot Stick Movie. Arizona borrowers will have the benefit of a 16 mm movie assembled and edited by Fieldman Frederic K. McQueary from film shot at a hot stick training school at safety-conscious Sulphur Springs Valley Electric Cooperative at Willcox.



A hot stick school is a good locale for a safety training movie.

PLAN FOR NATIONAL FARM SAFETY WEEK

REA's Safety Committee, alarmed at the rise in rural utility accidents, is urging that every borrower take an active interest in National Farm Safety Week, July 24-30, recently proclaimed by the President. The Secretary of Agriculture, in announcing the Department's cooperation, stated that, although rural people have greatly reduced their accident death rates in the past decade, that both injury and fatality rates for the farm population are the Nation's highest. He suggested that assistance with observance of Farm Safety Week should be offered to State Agricultural Extension Services.

REA borrowers can be of special assistance by publicizing in newsletters and other media hints on consumer safety.



Thousands of people saw the co-op's all-electric house on display.

northern electric

BUILT A HOUSE

You can sell electric house heating if you can prove that it is economical. That was the reasoning of the manager and power use staff of the Northern Electric Cooperative of Virginia, Minn., a year ago and they persuaded the co-op to build a house to prove it.

Icy winter blasts across the Mesabi Range make Northern Minnesota a good place to test out the efficiency of all-electric heating. That it is economical as well as efficient in that climate is born out so far in the 2-year-long tests the Northern co-op is making on its all-electric house.

The co-op staff prepared a plan of action before they put the proposition up to the board of directors. Besides a house plan to suit their purpose, they did these things:

- Visited several potential home sites and tentatively selected one;

- Canvassed appliance and equipment dealers in the area to determine how much interest they had in a promotion of this kind;

- Compiled a rough cost estimate.

They pointed out several things to the board when they presented the idea in the spring of 1959.

- An electric heating installation of that kind would establish a standard for contractors, builders, and electricians to follow.

- The demonstration would teach the prospective consumer about the necessity for good insulation, show the methods of application, and indicate the degree of insulation necessary for satisfactory electric heating operation.



Fireproof insulation is applied carefully around piping.



Visitors saw how insulation must be carefully installed.

- Types of electric heating equipment suitable for Minnesota homes could be on display.

- General interest in electric heating would be promoted.

The board was impressed that local dealers would cooperate, and that the project would be good for public relations. They approved it, and set up two committees to get the ball rolling.

The Contact Committee's function was to do the leg work, keeping in touch with the general building contractors, plumbers, electricians, electric heating distributors, insulators, as well as the appliance dealers, painters, and so forth.

The Building Committee was set up to negotiate for the home site, pass on the design of the house, draw up plans and specifications for wiring, insulation, appliances, and other features.

The manager was chairman of the Building Committee. The committee immediately negotiated for the home site already se-

lected, and passed on the design of a home in the pocketbook range of the average member. Specifications for construction, insulation, wiring and electrical equipment were drawn up and submitted to the Contact Committee.

A local general building contractor was selected, with a date to begin construction on July 15. The project held the intense interest of local contractors. This resulted in some attractive bids from contractors known for quality workmanship and dependability. As soon as all contractors were selected, they were called together to go over the final plans of construction.

Work on the house went off right on schedule, and on August 18 the house was ready for a 2-day insulation installation demonstration that drew 500 interested people. The house was purposely in several stages of completion. One room was completed; in another the insulation was being applied; in another the



Every stage of building was on display during the open house.

installation of the vapor barrier could be demonstrated; in still another electric heating equipment was being installed. The whole process could be explained to visitors while they looked at each step.

Good planning got the house built on time. The power use staff of the co-op divided their duties for the promotion. The manager handled all final negotiations and all changes that occurred. The power use director was responsible for publicity, and his assistant served as coordinator and expediter for the contractors.

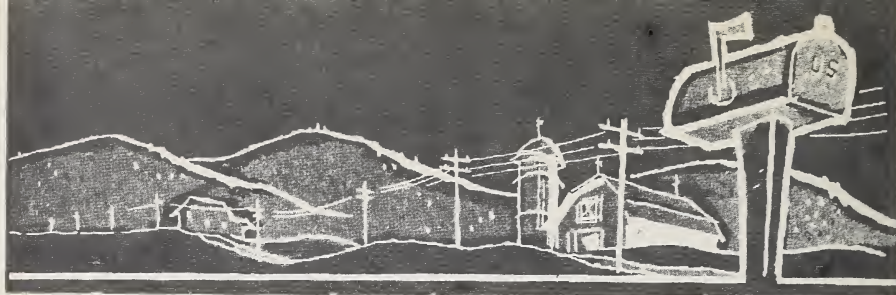
When the house was completed in September, a 3-day open house was held. The co-op went all out in a publicity campaign, as they did for the earlier demonstration. Roadside signs and window posters were used, as well as radio announcements, newspaper stories and newsletters. All told, about 11,000 people registered. The crowd was so enormous and

enthusiastic that co-op officials extended the open house for the rest of the week.

In order to keep interest alive during the 2 years in which heating cost tests will be made, the co-op is running a contest open only to members. Prizes are electrical heating equipment, and the object is to guess the kilowatt hours used to heat the house for a year.

Costs are running at the predicted reasonable figures estimated by the power use staff, so far. Assuming that this alone will sell electric house heating, the Northern Electric Cooperative can expect to at least double their house heating load in the near future. They estimated that they uncovered at least 300 good prospects during the open house registration.

This article was written by Jack Jenkins, of REA's Electric Operations and Loan Division.



RURAL DEVELOPMENT

Round-Up

From time to time, RURAL LINES carries stories on Rural Development. Here is a round-up of a few additional action programs being carried on in different states to show trends and suggest ideas to those REA borrowers and state associations wishing to further this program.

ALABAMA—For several years now, Alabama Electric Cooperative at Andalusia has employed John E. Hill as Commercial Manager to assist its distribution member co-ops and municipalities to obtain industries. Hill calls on industries that express an interest in a southern location for manufacturing facilities.

GEORGIA—When Fayette County Town and Country Leaders met for the first time last fall to launch the Fayette County Industrial Development Program, Coweta-Fayette EMC of Newnan helped to get the program off to a good start. The co-op served a barbecue luncheon to more than 50 people attending the 1-day organization meeting. Town and country leaders include both men and women among whom are some of the co-op's leaders. Georgia electric co-ops are backing a state-wide program to extend rural development into 115 rural counties they serve in the State.

INDIANA—When Miami-Cass

County REMC, Peru, got an industry in its service area, it got a rare one: an all-electric asphalt plant—one of six of its kind in the United States. Its connected load is 250 kva and the highest month's use in 1959 was 38,160 kwh with a billing of more than \$830. The co-op will also soon serve a new electrically heated junior high school.

KENTUCKY—Rural development was the big program in 1959 for several Kentucky co-ops. In the national Rural Development Program's 12-county Ashland Area in eastern Kentucky. Both Grayson RECC, Grayson, Ky., and Licking Valley RECC, West Liberty, are making a contribution. Hobart C. Adams, manager of Grayson was elected late in 1958 to serve as chairman of the Rural Development Program in the Ashland area. Manager Edward Gevedon of Licking Valley RECC featured Rural Development in several issues of the co-op's newsletter in 1959.

In south central Kentucky, Warren RECC, Bowling Green, and Farmers RECC, Glasgow, are active in the two rural development projects in that part of the State. Manager Charles Stewart of Warren RECC, has been working with the program for several years and including information

on it in *Contacts*. After many meetings, Manager J. B. Galloway and Electrification Adviser James Sherfey of Farmers RECC, in 1959, offered members individual help in getting started in the broiler production program in the area. Market for broilers is a new broiler processing plant in Glasgow which offers an immediate outlet for 5½ million broilers per year and employment for 70 people. Full capacity of the plant will be 22 million broilers per year.

Grayson County, served by both Warren and Farmers co-ops, was selected in 1955 as the first test project of Rural Electric Co-op Kentucky Utilities Association, an organization whose purpose is to encourage local, county, and statewide rural development. From this activity, Grayson County Improvement Association organized, surveyed the needs, and launched projects on sheep, poultry, and field seed production. A cheese plant has located in the county; it will use 150,000 pounds of milk a day when it reaches full production. Milk routes serving the Louisville milkshed have been established. A new hatchery has opened in Leitchfield to serve increasing broiler, egg and turkey production. Several folks have gone together and formed a feeder calf association. The county is now producing over 1,000 acres of sweet corn annually. While surrounding counties have experienced a retail sales slump, Grayson County has noted an upturn undoubtedly as a result of the 5-year rural development program, initiated by power suppliers and carried out by local people.

MISSISSIPPI—Mississippi Rural Electric Association, Jackson,

with a membership of 20 rural electric co-ops in the State, has had an action program in rural development for more than 2 years. MREA established its Industrial Development Department to assist, stimulate, and initiate agricultural and industrial development in the area served by each of the electric power associations in the State. B. U. Jones, now statewide manager, became the department's director on April 1, 1958, and carried on an active program. His job was: to assist towns and areas to compile factual information for potential industry prospects or for community use; assist groups to analyze suitability of type of industry being considered; furnish development committees prospects to contact; assist groups in supplying information requested by prospects, and work with agricultural producers and agencies in agricultural developments.

Last fall MREA in cooperation with other interested agencies sponsored a 2-day meeting on "Our Nuclear Future." World-famous scientists and a valuable exhibit explained industrial and commercial uses of nuclear power.

Local co-ops in Mississippi have maintained interest in rural development ever since the program was started. Pearl River Valley EPA, Columbus, employed William Thomas Shows in 1957 as agricultural and industrial representative for the co-op. Shows has carried on a program of improving rural areas, using his background as a graduate of Mississippi State College in Animal Husbandry and his work with Extension Service. He has also worked to promote more industry.

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